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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,643	08/19/2003	Kazuhide Tanaka	056203.52693US	3765

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EXAMINER

COOKE, COLLEEN P

ART UNIT PAPER NUMBER

1754

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,643

Applicant(s)

TANAKA ET AL.

Examiner

Colleen P. Cooke

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) 7 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/19/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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Election/Restrictions

Applicant's election with traverse of Group I, claims 1-6 in the reply filed on 7/27/05 is acknowledged. The traversal is on the ground(s) that the product cannot be made by another process and the process cannot be used to make another product. This is not found persuasive because the product merely requires a boron-containing superconductor and a metal powder, while the process requires a specific step of mixing a boron-containing superconducting powder with a metal powder. Therefore, the product can in fact be made by another process since it does not require the two powders or the powder mixing required by the method.

The requirement is still deemed proper and is therefore made FINAL.

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. This is cited with respect to claims 4 and 6 in particular.

Regarding claim 3, the parenthetical phrase renders the claim indefinite because it is unclear whether the limitation(s) enclosed within parenthesis are part of the claimed invention. See MPEP § 2173.05(d). For the purposes of further examination the claim will be treated as not requiring that which is in parenthesis.

Claim 6 recites the limitation "wherein **the** connection between the superconducting wire rods mentioned above" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. In particular, claim 6 depends directly from claim 1 and claim 1 has no reference to any connection nor to any plurality or multiplicity of wire rods. Claim 1 is drawn solely to a superconducting wire rod filled with a boron-containing superconductor.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b, e, or a) as being anticipated by Jin et al. ("High critical currents in iron-clad superconducting MgB₂ wires").

Jin et al. teaches using the powder-in-tube (PIT) method to fabricate MgB₂ wires (page 563, first full paragraph after abstract) from a commercially available MgB₂ powder of -325 mesh size (see caption for Figure 1) and also teaches various metal-doped wires (see caption for Figure 3). Jin et al. teaches specifically the use 5 mol% of 1-10 μm powder of Fe (caption to Figure 4 and Figure 4) being thoroughly mixed with MgB₂ powder which is then made into a wire by the PIT method. Figure 3 shows the J_c for the 5% Fe wire sample as greater than 1000 A/cm².

Although Jin et al. is silent as to the density of the superconducting material after a final work, it would appear that the superconductor taught by Jin et al. would inherently meet this limitation because Jin et al. teaches the same superconductor prepared in the same manner. It appears that the instantly claimed product by process is the same as that which is claimed (a doped MgB₂ superconducting wire prepared by the PIT method). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessman*, 180 USPQ 324.

Likewise with respect to claims 2 and 3, although Jin et al. is silent as to the defect portion of the wire or the bending strain rate taught therein, it would appear that the superconductor taught by Jin et al. would inherently meet this limitation because Jin et al. teaches the same superconductor prepared in the same manner.

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With respect to claim 6, it appears that the instantly claimed product by process is the same as that which is claimed (superconducting wire rods between which connection can be achieved). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessman*, 180 USPQ 324.

Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e or a) as being anticipated by Thieme et al. (US 2003/0036482).

Thieme et al. teaches preparing an MgB₂ superconducting wire by the powder-in-tube method (see abstract, [0056], [0057]) which may also have a metal powder such as Fe doped in ([0079],[0080]) at a particle size of less than 0.1 μm . Thieme et al. teaches the importance of having a higher density ([0058]) and that powder core densities of greater than 95 % can be achieved ([0065]) Although Thieme et al. is silent as to the critical current density of the superconductor, it would appear that the superconductor taught by Thieme et al. would inherently meet this limitation because Thieme et al. teaches the same superconductor prepared in the same manner, even having the same density.

Likewise with respect to claims 2 and 3, although Thieme et al. is silent as to the defect portion of the wire or the bending strain rate taught therein, it would appear that the superconductor taught by Thieme et al. would inherently meet this limitation because Thieme et al. teaches the same superconductor prepared in the same manner.

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With respect to claim 6, it appears that the instantly claimed product by process is the same as that which is claimed (superconducting wire rods between which connection can be achieved). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessman*, 180 USPQ 324.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen P Cooke whose telephone number is 571-272-1170. She can normally be reached Mon.-Thurs. 8am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman can be reached at 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 9/20/05
Colleen P Cooke
Primary Examiner
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